

REMARKS / ARGUMENTS

I. General Remarks

Claims 1-64 are currently pending in the application.

II. Objection to the Specification

The Examiner has objected to the Specification as failing to recite the U.S. Patent Number for the parent patent application. Applicant has amended the Specification, and respectfully requests the withdrawal of the Examiner's objection thereto.

III. Rejection of Claims 25-45 Under 35 U.S.C. § 112, first paragraph

Claims 25-45 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Applicant respectfully traverses.

With respect to those claims, the Examiner writes:

It is not clear as to how applicant can produce hydrocarbons using the drilling fluid of the invention. How can one produce hydrocarbons by just drilling a well bore using a drilling fluid? It would appear that one would be releasing hydrocarbons or recovering hydrocarbons not producing them. Clarification is requested.

Office Action ¶ 2 (mailed Aug. 30, 2004).

Applicant respectfully submits that the term "produce" is a term of common usage in the art, and that the use of this term sufficiently enables one skilled in the art to make and use the invention. *See* 35 U.S.C. § 112 ("The specification shall contain a written description of the invention . . . in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same . . ."). In the petroleum industry, the term "production" is defined as "the removal of petroleum from a subsurface reservoir by wells." *See* NORMAN J. HYNE, DICTIONARY OF

PETROLEUM EXPLORATION, DRILLING, AND PRODUCTION 396 (1991) (copies of the cited pages from this text are enclosed for the Examiner's convenience). A person skilled in the art of this invention would be aware of this usage, and would recognize that the subject matter of claims 25-45 indeed enables hydrocarbons to be produced. Accordingly, Applicant respectfully asserts that claims 25-45 fully comply with the enablement requirement of the first paragraph of 35 U.S.C. § 112. Applicant respectfully requests the withdrawal of the rejection currently imposed against claims 25-45, and earnestly solicits the timely issuance of a Notice of Allowance for these claims.

IV. Rejection of 1-45 and 55 under 35 U.S.C. § 112, second paragraph

Claims 1-45 and 55 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully traverses.

A. Rejection of Claim 1

With respect to claim 1, the Examiner writes:

[T]he use of the phrase "second fluid" renders the claim confusing as it seems to suggest the presence of a "first fluid" however no first fluid is positively recited. Is applicant meaning the setttable fluid to be considered a "first fluid"? Clarification is requested.

Office Action ¶ 4 (mailed Aug. 30, 2004).

Applicant respectfully submits that the phrase "second fluid" is sufficiently definite for compliance with 35 U.S.C. § 112. During examination, the words of a patent claim must be given their plain meaning unless applicant has provided a clear definition in the specification. *See* MPEP § 2111.01 (citations omitted). This ordinary meaning may be evidenced by a variety of sources, including dictionaries. *See id.* (citations omitted). Moreover, if more than one definition of a term is possible, the claim terms may be construed to encompass

all consistent meanings. *See id.* (citations omitted). The Oxford English Dictionary defines the word “second” as meaning “another; additional to that which has already existed, taken place, been mentioned, etc.” *See THE OXFORD ENGLISH DICTIONARY* at 826 (2d ed. 1989) (definition 4a). (Copies of the cited pages from this text are enclosed for the Examiner’s convenience.) Here, the word “second” is used to describe and distinguish the fluid being displaced (the “second fluid”) as “another fluid,” distinct from the displacement fluid (the fluid performing the act of displacing). When given this plain meaning interpretation, the phrase “second fluid” is sufficiently definite to satisfy the requirements of 35 U.S.C. § 112, second paragraph. Accordingly, Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, against claim 1 and all claims dependent therefrom. Applicant earnestly solicits the timely issuance of a Notice of Allowance for these claims.

B. Rejection of Claims 15, 40, and 55

With respect to claims 15, 40, and 55, the Examiner writes that “the use of the term ‘desired’ renders the claim vague and indefinite.” Office Action ¶ 4 (mailed Aug. 30, 2004). Applicant respectfully submits that this language is sufficiently definite to comply with 35 U.S.C. § 112. “The fact that claim language . . . may not be precise, does not automatically render the claim indefinite under 35 U.S.C. § 112, second paragraph. Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.” *See* MPEP § 2173.05(b) (citations omitted). For example, a limitation such as “an effective amount” has been held to be sufficiently definite when read in light of the supporting disclosure and in the absence of any prior art which would give rise to uncertainty about the scope of the claim. *See* MPEP § 2173.05(c) (citing *Ex parte Skuballa*, 12 U.S.P.Q.2d 1570 (Bd. Pat. App. & Inter. 1989)). Here, Applicant is aware of no prior art that

would create any uncertainty as to the scope of the subject claims. Rather, one of ordinary skill in the art readily would ascertain, in light of Applicant's disclosure, that "an amount sufficient to provide the desired degree of solids suspension" (as recited in claims 15, 40 and 55) is an amount effective to accomplish the objectives of that particular use from among those described in the specification. Accordingly, Applicant respectfully asserts that the use of the term "desired" in the subject claims satisfies the requirements of 35 U.S.C. § 112, second paragraph. Applicant respectfully requests the withdrawal of the rejection thereunder against claims 15, 40, and 55, and earnestly solicits the timely issuance of a Notice of Allowance for these claims.

C. Rejection of Claim 25

With respect to claim 25, the Examiner writes that "it is unclear as to how hydrocarbons are producing using the drilling fluid." Office Action ¶ 4 (mailed Aug. 30, 2004). Applicant respectfully asserts that the term "production," as defined in Section II, *supra*, is a term of art understood by those skilled in the art and therefore sufficiently definite to satisfy the requirement set forth in the second paragraph of 35 U.S.C. § 112. *See* MPEP § 2173.02 ("Definiteness of claim language must be analyzed, not in a vacuum, but in light of . . . the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made."). Accordingly, Applicant respectfully requests the withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, against claim 25 and all claims dependent therefrom. Applicant earnestly solicits the timely issuance of a Notice of Allowance for these claims.

IV. Rejection of Claims 1-64 Based on Double Patenting

Claims 1-64 stand rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 6,689,208 ("the

'208 Patent"). Submitted herewith is the appropriate Terminal Disclaimer in compliance with 37 C.F.R. § 1.321 disclaiming the appropriate term. Consequently, Applicant submits that the double-patenting rejection has been overcome, and requests the withdrawal of the rejection, and the timely issuance of a Notice of Allowance for claims 1-64.

SUMMARY

In light of the above remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections. Applicant further submits that the application is now in condition for allowance, and earnestly solicits timely notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicant has included Check No. 907203 for the terminal disclaimer fee of \$110.00 under 37 C.F.R. § 1.20(d). However, should the Commissioner deem that any additional fees are due, including any fees for extensions of time, Applicant respectfully requests that the Commissioner accept this as a Petition Therefore, and direct that any additional fees be charged to Baker Botts L.L.P. (*formerly Baker & Botts, L.L.P.*) Deposit Account No. 02-0383, Order Number 063718.0432.

Respectfully submitted,

BAKER BOTTS L.L.P. (023640)

By: _____



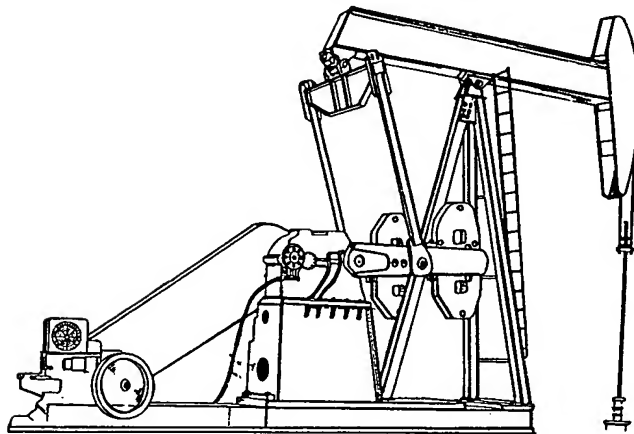
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Dictionary of Petroleum Exploration, Drilling, & Production.

Norman J. Hyne, Ph.D.



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associated gas. During mud logging, produced gas is the gas that flows into a well as the well is being drilled, the same as if the gas were being produced from a completed well.

produced water water that is produced from a well along with oil and gas. The subsurface water associated with gas and oil reservoirs is called oilfield brine. The waters are often described by their dissolved salts in both concentration, usually in parts per million, and chemical composition. The composition is described by their dominate mineral ions. Type a has sulfate-sodium, Type b has bicarbonate-sodium, Type c has chloride-magnesium, and Type d has chloride-calcium waters. Type d is most common. The composition of the water can be shown by using Tickell, Parker, or Stiff methods and diagrams.

producer 1) a well that will flow commercial amounts of gas and/or oil. *Prod* 2) any owner of an economic interest in a well. Producers includes working, royalty, overriding, and net profits interest owners.

Producer's 88 a general term for a lease form. Producer's 88 was originally a lease form printed by Burkhart Printing Company in Tulsa, Oklahoma in 1916 as a lease (number 88) for Producer Oil Company that later became synonymous with all lease forms. (*88 lease*)

producible well a well capable of producing petroleum in paying quantities. The well may not be presently producing due to lack of permanent production or transportation facilities.

producibility-index log a calculated well log that shows effective porosity and percent porosity filled with clays. Low clay content is indicative of high permeability.

producing gas/oil ratio the number of standard cubic feet of gas produced at the surface of a well per stock tank barrel of oil at a specific time. The gas includes both free gas and solution gas. The producing gas/oil ratio is usually reported in SCF/SRTB or SCM/STCM. (*instantaneous total gas/oil ratio*)

producing platform *see production platform*

producing well a well that produces petroleum in a field. A producing well is in contrast to an injection, service, or plugged and abandoned well

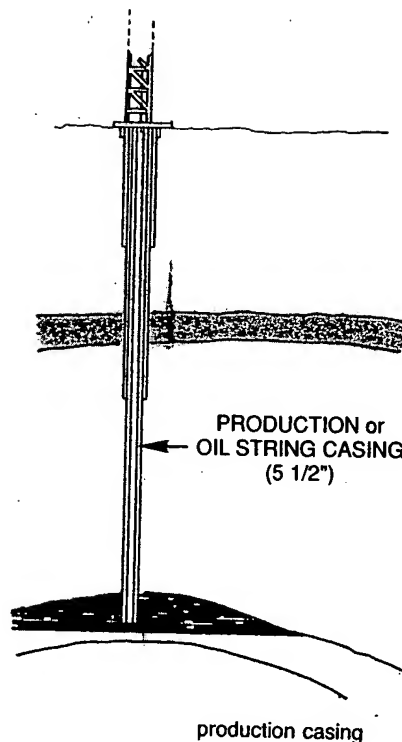
producing zone the vertical extent of the reservoir producing gas and/or oil in a well. The producing zone can be named after the producing formation or by its depth and thickness. (*pay zone, pay, production, or productive horizon or pay*)

production 1) the removal of petroleum from a subsurface reservoir by wells 2) oil or gas wells 3) oil and/or gas produced from wells 4) the part of the petroleum industry that is concerned with bringing gas and oil to the surface and separating, gauging, storing, and preparing it for transport *Prod or prod*

production casing *see production string*

production ceiling the maximum production that a field, county, or region obtains due to a) technical, b) production-sharing, c) government reasons

production combination tool a tool used on high flow rate wells that combines a) a continuous



flowmeter, b) a fullbore spinner, c) a gradiometer, d) a manometer, and e) a thermometer *PCT*

production cost factor an economic evaluation tool for a project that is computed by adding the capital cost of exploring, drilling, and production and dividing by the estimated oil production in barrels per day

production costs the cost of lifting the oil and gas together with its gathering, treating, and storing

production facility the equipment such as separators, treaters and compressors that separate a well stream into its oil, gas, and water phases and processes them into marketable products or disposes of them

production foreman an employee of the oil producer who supervises lease operations. The production foreman coordinates all lease work through the pumpers or head roustabouts. The production foreman also supervises the completion of new wells, well servicing and workovers, and the installation of any new equipment on the leases. The production foreman works under the field superintendent. (*field foreman or lease superintendent*)

production horizon *see production zone*

production index $\frac{S_1}{S_1 + S_2}$ from Rock-Eval pyrolysis *PI*

production in paying quantities production of enough oil and/or gas for the operator to make a profit above operating costs

production island an artificial island, usually made of gravel or larger particles, that is constructed to accommodate producing wells in shallow water

production license an exclusive agreement between a country and a party for that party to search and produce petroleum from a block or concession.

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Prepared by

J. A. SIMPSON *and* E. S. C. WEINER

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seclusion (s'i'klu:ʒən). [ad. med.L. *seclusionem* (Diefenb.), f. L. *seclūs-*, *seclūdēre*: see SECLUDE v.]

1. The action of secluding; *exclusion* (obs.). 1623 COCKERAM *1*, *Seclusion*, a shutting apart. 1664 OWEN *Vind. Animad.* *Fiat Lux* xviii. 450 Nor can I gather that of you suffered, for your love to Monarchy: Seeing some of you would have been contented with its everlasting Seclusion. c1680 *Let. in Somers Tracts* (1748) I. 131. I think it both unreasonable and unjust, for any Subject of England to attempt his Seclusion from the Crown. 1808 in *Encycl. Brit.* (1885) XIX. 748/2 Recognizing the importance of attempting reformation by the seclusion, employment, and religious instruction of prisoners.

attrib. 1895 *Law Times* 13 July 258 An inmate was subjected to the discipline of a 'seclusion cell'.

2. The condition or state of being secluded; an instance of this. *in seclusion*, apart from society.

1784 COWPER *Task* III. 675 Oh, blest seclusion from a jarring world. Which he, thus occupied, enjoys! 1794 MRS. RADCLIFFE *Myst. Udolpho* xxx. Several days passed with Emily in total seclusion. 1856 STANLEY *Sinai & P.* I. (ed. 3) 96 The elevation and seclusion of some of its edifices, perched high among almost inaccessible rocks. 1872 J. G. MURPHY *Comm., Levit.* xii. Intro. The period of seclusion after child-bearing. 1886 RUSKIN *Præterita* I. 427 Brought up in severe seclusion.

3. A place or abode in which one is secluded.

1791 MRS. RADCLIFFE *Rom. Forest* iv. La Motte had now passed above a month in this seclusion. 1829 I. TAYLOR *Enthus.* viii. 196 There was certainly as much piety without as within these seclusions—and much more learning. 1859 HAWTHORNE *Marb. Fawn* viii. A seclusion, but seldom a solitude; for all who breathe Roman air, find free admission. 1884 SINNETT *Esoteric Buddhism* ix. 148 They have sometimes been isolated in separate seclusions.

seclusionist (s'i'klu:ʒnɪst). [f. SECLUSION + -IST.] One who advocates seclusion; applied, e.g. to the supporters of monasticism, and (Hist.) to a Chinese or a Japanese who is adverse to the admission of foreigners to his country.

1839 I. TAYLOR *Ancient Chr.* I. iv. 521 The Jewish seclusionists well understood... that a community of goods was impracticable. 1886 *Atlantic Monthly* Nov. 604 If the progressionists had not seized the reins of government (in Korea), the seclusionists would soon have had everything their own way. 1887 *Fortn. Rev.* May 677 Now [in Japan]... it would probably be difficult to find so much as one genuine seclusionist. *Ibid.*, The head of the seclusionist party.

seclusive (s'i'klu:sɪv), *a.* [As if ad. L. **seclūsivus*, f. *seclūs-*, *seclūdēre*: see SECLUDE v.]

1. Serving or tending to seclude; disposed to seclude oneself, affecting seclusion.

a1834 COLERIDGE (Worcester 1860). 1834 I. TAYLOR *Sat. Even.* 274 Religion or the devotional part of it is... by its necessary condition seclusive. 1890 F. BARRETT *Between Life & Death* I. ii. 29 Her ways were odd and seclusive. 1894 J. T. FOWLER *Adamant* Intro. 38 On the top a palisade and quick hedge for seclusive enclosure. 1903 *Daily Chron.* 2 Feb. 4/6 The Royal Society electing him to their seclusive membership.

2. *Sc. Law.* Exclusive of.

1855 *Deed in Law Rep.* 9 App. Cases 304 In liferent for her liferent alimentary use of the annual proceeds thereof alienary, and seclusive of the jus mariti (her husband).

Hence seclusively *adv.*, seclusiveness.

1822 *Examiner* 347/2 [The picture] Landscape with fall of water, &c. is poetical seclusiveness. 1883 W. JOLLY *Life J. Duncan* xxxix. 466 The enclosing hills seemed to shut out the cottage more seclusively from the world. 1885 J. M. LUDLOW in *Homil. Rev.* Apr. 282 What we may call their [Jewish Rabbins] seclusiveness of thought.

†**seclusory**. *Obs.*—[ad. L. *seclūsorium*, f. *seclūdēre*: see SECLUDE v. and -ORY.] (See quot.)

1656 BLOUNT *Glossogr.* *Seclusory*, a place where any thing is shut up a part from other; a Coop.

sec-mod (sek mod). Colloq. abbrev. of *secondary modern* s.v. SECONDARY *a.* 5f.

1968 *Listener* 28 Mar. 421/2 The wretched life-style on offer to most sec-mod school-leavers. 1973 *Times* 31 May 10/7 Black and white kids, in their sec-mod school uniform.

seco- ('sekəu). *Chem.* [f. L. *sec-āre* to cut + -O.] A formative element used in naming derivatives, esp. of steroids, in which fission of a ring has occurred (see quot. 1951). Hence also as quasi-adj.

1951 R. S. CAHN et al. in *Jrnl. Chem. Soc.* 3535 Ring fission, with addition of a hydrogen atom at each terminal group thus created, shall be indicated by the prefix seco, the original steroid numbering being retained. 1959 L. F. & M. FISHER *Steroids* iv. 156 This was identified as the 2,3-seco-dicarboxylic acid, by saponification, oxidation to the 7-ketone, and Wolff-Kishner reduction to the known 2,3-secocholestan-2,3-dicarboxylic acid. 1961 I. E. BUSH *Chromatogr. Steroids* ii. 102 The opening of rings to form seco-dicarboxylic acids. *Ibid.* vi. 342 The C₁₉ triols... are oxidized to the 0-seco-16,17-dialdehydes. 1977 *Lancet* 16 Apr. 841/1 The physiological regulation of secretion of this seco-steroid by the kidney.

secobarbital (sekəu'barbiəl). *Pharm.* Chiefly U.S. [f. SECO(NDARY *a.* + BARBITAL.) = QUINALBARBITONE.

1952 *Analytical Chem.* XXIV. 1605/1 Considerable differences in the [optical density] ratios at various wave lengths are found with these barbiturates. For example, at

270 mμ butylallylone has the highest ratio, +0.81, followed by secobarbital +0.69. 1962 *New Scientist* 22 Feb. 426/1 Some results obtained with secobarbital... and other drugs are also mentioned. 1974 M. C. GERALD *Pharmacol.* xi. 205 Short-acting barbiturates such as secobarbital ('red devils'). 1976 *Billing's* (Montana) *Gaz.* 11 July 9-A/1 In order on DAWN's list of drugs most frequently required in crisis situations... were heroin, marijuana, aspirin, LSD, secobarbital (...known as 'red devils').

secodont ('sekəudənt), *a. Zool.* [f. L. *sec-āre* to cut + Gr. *δodont-*, *δodonts* tooth.] Of a tooth: adapted or suited for cutting. Of an animal: having such teeth.

1891 FLOWER & LYDEKKER *Introd. Mammals* 32 Trituberculism differentiating into a secodont and a bunodont series, according as to whether the dentition becomes of a cutting or a crushing type. 1968 R. ZANGERL *tr. Peyer's Compar. Odontol.* 244 Both upper and lower carnassials (in modern carnivores) are secodont; that is, they have sharp cutting edges that run parallel to the edge of the jaw.

secohm ('sekəum). *Electr. Obs. exc. Hist.* [f. SECON(D) *sb.* + OHM².] A name proposed for a unit of inductance.

1887 AYRTON & PERRY in *Nature* 9 June 131/2 Hence we are driven to suggesting a temporary name for the unit, and as the first three letters in 'second' are common to the name in English, French, German, Italian, &c., and ohm is also common, we venture to suggest 'secohm' as a provisional name. 1948 *Atlantic Monthly* May 613/2 The motion to adopt 'henry' as the name of this unit... was seconded by... Professor Ayrton, who had himself, a few years ago, proposed the word 'sec-ohm' as being a proper name for the unit of inductance. 1963 JERRARD & McNEILL *Dict. Sci. Units* 127 The secohm was equal to the product of one legal ohm and one second and its magnitude was about the same as a henry.

secomoure, *obs.* form of SYCAMORE.

Seconal ('sekonæl, -əl). *Pharm.* Also *seconal*. [f. SECON(DARY *a.* + AL(LY)).] A proprietary term for SECOBARBITAL. Also, a tablet of this.

1935 *Official Gaz.* (U.S. Patent Office) 23 July 727/2 Eli Lilly and Company, Indianapolis... *Seconal*. For products of secondary amyl allyl barbituric acid and the sodium salts thereof... useful as hypnotics. Claims use since Apr. 11, 1935. 1937 *Jrnl. Amer. Pharmacol. Assoc.* XXVI. 1248 It was concluded that 'Seconal' had a shorter duration of action and that its minimal anesthetic dose and minimal lethal dose were smaller than those of 'Sodium Amytal'. 1938 *Trade Marks Jnl.* 23 Feb. 218/1 *Seconal*. 1950 E. HEMINGWAY *Across River & into Trees* ii. 11 He was also anxious to lie down and take a seconal. 1958 'A. BRIDGE' *Portuguese Escape* xiii. 217 She swallowed some Seconal with a gulp of water. 1959 N. MAILER *Aduts. for Myself* (1961) 214 Drugging myself into sleep with an overload of seconal. 1965 G. MARK *Let.* 12 Oct. (1967) 68 At 8 we take two Seconals, three aspirin and a shot of LSD. 1973 M. AMIS *Rachel Papers* 176 'What did you give him?' 'Half a Mandie, a Seconal—I can't remember—and two Mogadon, I think.'

second ('sekənd), *sb.* Forms: 4, 6 *seconde*, 6-*second*. [a. F. *seconde*, ad. med.L. *secunda*, fem. of L. *secundus* SECOND *a.*, used ellipt. for *secunda minuta*, lit. 'second minute', i.e. the result of the second operation of sexagesimal division; the result of the first such operation (now called 'minute' simply) being the 'first' or 'prime minute' or 'prime' (see PRIME *sb.* 2).]

The med.L. *secunda* is also represented by G. *sekunde*, Du. *seconde* fem. (whence Sw. *sekund* masc., Da. *sekund*), Med.L. has a neut. *secundum* (cf. *minutum* a minute), whence Sp. *segundo*, It. *secondo*.]

1. *Geom. (Astr., Geog., etc.)* A sixtieth part of a minute, 1/60th part of a degree. See MINUTE *sb.* 2, DEGREE *sb.* 9.

c1391 CHAUCER *Astrol.* i. 48 These degrees of signes ben euerich of hem considered of 60 Mynutes, & eury Minute of 60 secondes. 1599 E. WRIGHT *Err. Navig.* D 2, Let the meridian (divided into degrees, minutes, seconds, &c.) roule vpon a straight line. 1713 J. WARD *Young Mathem. Guide* (ed. 2) 350 Every Circle is suppos'd to be divided into 360... Degrees; every Degree is sub-divided into 60 Parts call'd Minutes; and every Minute into 60 Seconds, &c. 1870 PROCTOR *Other Worlds* vii. 171 The star Alpha Centauri... exhibits... an annual parallax of one second.

2. *a.* In measurement of time: The sixtieth part of a minute, 1/60th of an hour. Now one of the base units of the International System of Units, and scientifically defined in terms of the frequency of a spectral transition of an isotope of caesium (see quot. 1968).

1588 A. KING *tr. Canisius' Catech.* g.viii. Ye cowrse of ye sone, quihik seye hes bene obseruēt to be accomptessit in 365 dayes 5 hours to minit; and in 16 Seconds. 1695 CONGREVE *Love for Love* iii. At Ten a Clock, punctually at Ten. *Sir Samp.* To a Minute, to a Second; thou shalt set thy Watch, and the Bridgroom shall observe it's Motions. 1762 [W. YOUNG] *Treat. Weights & Meas.* 24 The pendulum which vibrates seconds at London, has been commonly esteemed 39.2 English inches. 1883 R. S. BALL in *Encycl. Brit.* XV. 668 [In the C.G.S. system] the unit of length is the centimetre, the unit of mass is the gramme, and the unit of time is the second. 1955 *Sci. Amer.* Mar. 52/2 Accordingly the International Committee is to define the second as: 1/31,556,925.975 of the tropical year 1900. 1968 *Nature* 16 Nov. 651/1 The basic unit of time in the International System of Units, formerly identical with the astronomical second of ephemeris time, is now based on a natural periodicity of the caesium atom and is defined in the

following terms: 'the second is the duration of 9 192 631 770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium-133 atom'. 1975 *Oxf. Compan. Sports & Games* 975/1 This reduced the previous world records by half a second, the biggest single advance in the history of the events.

b. Used vaguely for an extremely short time, an 'instant'.

1825 SCOTT *Betrothed* iv. A momentum of speed which increased with every second. 1897 *Daily News* 14 June 5/7 There was a second's panic in the crowd. 1906 CHARL. MANSFIELD *Girl & Gods* xii. Do you mind if I slip away for just two seconds and take off this frock?

3. *attrib. and Comb.*, as *second-foot*, a unit of the rate of flow of water, equal to one cubic foot per second; *second-* (seconds-) *hand*, a hand or pointer of a timepiece indicating seconds; *second-* (seconds-) *mark Math.*, the character ", denoting a second or seconds (either of angle or of time); *second-* (seconds-) *pendulum*, a pendulum of a timepiece vibrating seconds; *second pivot* (see quot.); † *second-* (seconds-) *watch*, a timepiece indicating seconds.

1898 U.S. Dept. Agric. *Yearbk.* 1897 640 Where water is abundant, the duty has been known to be as low as 50 acres... to the 'second-foot. 1914 RIES & WATSON *Engin. Geol.* v. 250 The height of the black lines illustrates the relative quantity of water expressed in cubic feet per second, or second feet, occurring throughout the year. 1928 *Manch. Guardian Weekly* 31 Aug. 178/3 The assumption is that the main river, suitably fortified with levees, can carry rather less than 2,000,000 cubic feet of water per second (or 2,000,000 second feet as it is briefly described). 1979 PRINGLE in *Phil. Trans.* LI. 250 Upon looking at a watch, which had a 'second-hand',... he stopped me when I had counted 13 seconds. c1850 *Rudin. Nau.* (Weale) 41 Your watch... should be furnished with a seconds-hand. 1888 Lb. GRIMTHORPE in *Encycl. Brit.* XXIV. 398/1 In the chronograph watch there is, in addition to the centre seconds-hand, an independent seconds-hand which, when not in operation, stands at zero. 1888 JACOBI *Printers' Voc.*, 'Seconds mark. 1763 MURDOCH in *Phil. Trans.* LIV. 31 A 'second-pendulum at the equator would be 39.154 inches long. 1837 WHEWELL *Hist. Induct. Sci.* (1857) II. 221 Determining the length of the seconds' pendulum in different latitudes. 1884 F. J. BRITTEN *Watch & Clock. Handbk.* 233 [The] 'Seconds Pivot... [is] the prolongation of the fourth wheel arbor to which the seconds hand of a watch is fixed. 1754 SMEATON in *Phil. Trans.* XLVIII. 537 A third observed, by a 'seconds-watch, the time taken up in running these 357 feet. 1763 SHORT *ibid.* LIII. 329 Each observer had a Second-watch in his hand.

second ('sekənd), *a.* and *sb.* Forms: 3-7 *second(e)*, 4-5 *seconde*, 4, 6 *seconde*, 4-6 *second*, 5 *seconde*, 6 *seconde*, 6 *Sc. secund*, 5 *sycond*, 4-*second*. [a. F. *second* = Pr. *segon*, Sp., Pg. *segundo*, It. *secondo*, ad. L. *secundus* following (hence favourable, prosperous, primarily of a breeze), next, second, f. root of *sequi* to follow.

OE. had no proper ordinal for the number two (like G. *zweite*, Du. *tweede*, F. *deuxième*), the sense being expressed by *öber* (see OTHER *a.*); this being ambiguous, the Fr. word found early acceptance.]

A. adj.

1. *a.* Coming next after the first according to any contextually understood principle of enumeration (e.g. in order of time, position, rank, quality, conventional or arbitrarily adopted sequence): the ordinal corresponding to the cardinal two.

(a) with *sb.* expressed; also *predicatively*.

1297 R. GLOUC. (Rolls) 5724 In þe secunde 3ere þat he verat bissop was. 1303 R. BRUNNE *Handl. Ys* grante of þe 7th secunde sacrament. y vnderstonde, Synne gauned of þe bysshop honde. c1386 CHAUCER *Sec. Nun's T.* 139 Eury secunde or priddy day sche faste. c1440 *Jacob's Well* 46 Here brekynt pou þe secunde tyme þe x. comandementes. 1507 *Acc. Ld. High Treas.* Scot. III. 290 The second day of Maii. 1549 *Compl. Scot., Epist.* O. Grace 6 Numa pompilius, the second kyng of rome. 1588 SHAKS. *L.L.L.* I. ii. 183 The first and secunde cause will not serue my turne. a1674 CLARENDON *Hist. Reb.* xi. §151 The Convertine, a ship of the second rank. 1700 DRYDEN *Sigism. & Guise.* 35 Youth, Health, and Ease, and most an amorous Mind. To second Nuptials had her Thoughts inclin'd. 1872 FITZGERALD *Omar* (ed. 3) lv. You know, my Friends, with what a brave Carouse I made a Second Marriage in my house. 1884 Lb. BRABOURNE *lett. Jane Austen* I. v. 87 Jane's picture of a clergyman is generally that of a second son who enters the profession in order to hold a family living.

(b) with ellipsis of *sb.* understood from the context.

a1300 *X Commandm.* 25 in E.E.P. (1862) 16 þe secunde [commandment] so is þis, sundai wel þat þe holde. 1387 *TREVISIA Hiden* (Rolls) II. 23 In Bretayn, beey many wondres... þe fyrste is at Pectoun... þe secunde is at Stonhegye by sides Salisbury. c1470 HENRY WALLACE vii. 111 The fyrst writtynge was gross letteris of bras. The secound gold, the thrid was silur scheyne. 1636 HEYWOOD *Challenge Beauty* iv. Wks. 1874 v. 50 If you Would add a second to this curtesie. 1748 RICHARDSON *Clarissa* IV. 201, I liked her at first sight, and better at second. 1814 CARV *Dante, Inf.* xviii. 38 Ah! how they made them bound at the first stripe! None for the second waited, nor the third. 1858 *Chamb. Jnl.* 20 Nov. 334/1 In the first of which objects, by the way, they have succeeded much better than in the second.

b. *the second*: appended to a personal name to designate the second bearer of the name in a succession of persons (chiefly sovereigns, or

